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(54) Title: INNER MAGNETIC SHIELD MATERIAL FOR CATHODE RAY TUBE AND PROCESS FOR PRODUCING THE SAME

(54) 発明の名称: 陰極線管用インナー磁気シールド素材とその製造方法

(57) Abstract: An inner magnetic shield material for fabricating an inner magnetic shield to be disposed in a color cathode ray tube, which comprises a steel strip having at least one major surface thereof provided with a coating of organic resin composed essentially of C and H, or C, H and O, or C, H, O and N, and wherein the steel strip on its surface exhibits a surface roughness (Ra) of 0.2 to 3 μm and the thickness (T) of the organic resin coating is in the range of 0.1 to 6 μm . The ratio of T/Ra is preferably in the range of 0.2 to 4.0. The organic resin coating contains dispersed wax particles. The ratio (Φ/T) of wax average particle diameter (Φ) to coating thickness (T) is in the range of 0.5 to 5, and the content of wax in the coating is in the range of 2 to 20% in terms of the ratio of area occupied by wax when the coating surface is observed through an electron microscope. The organic resin coating may contain one or both of (a) a total of 2 to 50 mass% of at least one coupling agent and (b) a total of 2 to 80 mass% of at least one metal oxide selected from among SiO_2 , Fe_3O_4 , Fe_2O_3 , Ni-O , Zr-O , Cr_2O_3 and Al_2O_3 .

(57) 要約: カラー受像管内に設置されるインナー磁気シールドを製作するためのインナー磁気シールド素材は、鋼帶の少なくとも一方の表面に、本質的にC、HまたはC、H、OまたはC、H、O、Nからなる有機樹脂の被膜を有し、鋼帶表面の表面粗さR_aが0.2~3 μm 、有機樹脂被膜の厚みTが0.1~6 μm である。T/R_aの比は0.2~4.0の範囲内であることが好ましい。有機樹脂被膜はワックスの分散粒子を含有し、ワックスの平均粒径 Φ と被膜厚みTとの比 Φ/T が0.5~5であり、被膜中のワックスの含有量が、電子顕微鏡で被膜表面を観察した時にワックスが占める面積率が2~20%となる量である。有機樹脂被膜は、(a)合計2~50質量%の少なくとも1種のカップリング剤、及び(b)合計2~80質量%の SiO_2 , Fe_3O_4 , Fe_2O_3 , Ni-O , Zr-O , Cr_2O_3 および Al_2O_3 から選んだ少なくとも1種の金属酸化物、の一方又は両方を含有していてもよい。

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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C23C26/00, H01J29/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1926-1996	Toroku Jitsuyo Shinan Koho	1994-2003
Kokai Jitsuyo Shinan Koho	1971-2003	Jitsuyo Shinan Toroku Koho	1996-2003

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 97/26387 A1 (SAMUSUNG DISPLAY DEVICES CO.), 24 July, 1997 (24.07.97), & JP 2000-504472 A	1-15

 Further documents are listed in the continuation of Box C. See patent family annex.

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24 September, 2003 (24.09.03)Date of mailing of the international search report
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